

ABSTRACT

There is disclosed a system for implementing a virtual solar cell, which virtually produces output characteristic of a solar cell that satisfies conditions such as insolation, temperature and so on, to embody the performance of a solar cell without having an actual solar cell array. The system includes a data detector, a controller, a power converter, and a data logging unit, to measure external environment information such as temperature, insolation and wind velocity, and solar cell output characteristic according thereto to construct a database. In the case that output characteristic of a solar cell installed in the place a user desires at the time a user wants is produced when an actual solar developing system is designed, the system of the invention generates a voltage-current model of the solar cell, suitable for that situation, to obtain the same input/output characteristics of the solar cell as those of an actual solar cell. Furthermore, the data logging system of the present invention can store various characteristics of solar cells, generated and controlled by the controller, and interface with a user using the stored characteristics to perform remote control.